

## ABSTRACT OF THE DISCLOSURE

An ultrasound system and method for calculation and display of tissue deformation parameters are disclosed. The tissue deformation parameter strain is determined by an accumulation of strain rate estimates for consecutive frames over an interval. The interval may be a triggered interval generated by, for example, an R-wave in an ECG trace. Three quantitative tissue deformation parameters, such as tissue velocity, tissue velocity integrals, strain rate and/or strain, may be presented as functions of time and/or spatial position for applications such as stress echo. For example, strain rate or strain values for three different stress levels may be plotted together with respect to time over a cardiac cycle. Parameters which are derived from strain rate or strain velocity, such as peak systolic wall thickening percentage, may be plotted with respect to various stress levels.